

## Types of Lauraceous Taxa Described by Blume from Japan

Hideaki OHBA<sup>a,\*</sup>, Shinobu AKIYAMA<sup>b</sup> and Gerard THJISSE<sup>c</sup>

<sup>a</sup>Department of Botany, the University Museum, the University of Tokyo,  
7-3-1, Hongo, Tokyo, 113-0033 JAPAN;

<sup>b</sup>Department of Botany, National Museum of Nature and Science,  
4-1-1, Amakubo, Tsukuba, 305-0005 JAPAN;

<sup>c</sup>Nationaal Herbarium Nederland, Leiden University Branch, P.O. Box 9514, THE NETHERLANDS

\* Corresponding author: ohba@um.u-tokyo.ac.jp

(Accepted on September 13, 2012)

In 1826 and 1851, Carl Lodewijk von Blume, who studied the specimens collected in Japan by Siebold, Bürger, their successors, and their Japanese correspondents, described several new species and varieties of *Lauraceae*. To stabilize the taxonomy of the family, lectotypes for the taxa described by Blume are herein designated. The lectotypification of five Blume's combined names which were originally published by Siebold and Zuccarini are also included.

**Key words:** Japanese flora, *Lauraceae*, Siebold collections, typification.

Carl Lodewijk von Blume (Karl Ludwig von Blume) studied the specimens collected in Japan by Siebold, Bürger, their successors, and their Japanese correspondents and described several new species and varieties of *Lauraceae* (Blume 1825–26, 1851). Blume's treatment influenced later workers on the family and wider studies of the flora of Japan.

In our previous paper (Ohba et al. 2009) we lectotypified the names published in *Fagaceae*. This paper aims to provide data related to the types and original materials of all names at specific and infraspecific rank in *Lauraceae* described from Japan by Blume in 1826 and 1851. In both works, Blume rarely cited the specimens examined. In this paper we designate lectotypes for all names published by Blume from Japan in *Lauraceae*, except for *Laurus sericea* and *Lindera sericea* var. *glabrata*, according to the guidelines of the International

Code of Botanical Nomenclature (2006) and changes in the Melbourne Code (Knapp et al. 2011, McNeill and Turland 2011). We designate neotypes for *Laurus sericea* and *Lindera sericea* var. *glabrata*. The lectotypification of five Blume's combined names, *Aperula citriodora*, *Lindera glauca*, *Lindera praecox*, *Lindera sericea*, and *Lindera triloba*, which were originally published by Siebold and Zuccarini, are also included here. The designations are listed in alphabetical order.

Although several Japanese botanists, including Gen-ichi Koidzumi in 1925 and Takenoshin Nakai in 1926, visited Leiden and studied the specimens used by Blume, they did not designate lectotypes. In 1958 Hiroshi Hara studied specimens, such as *Lindera*, described by Blume, but he also did not designate lectotypes. The type concept was not as well developed at those times as it is now.

During preparation of the manuscript on *Lauraceae* for the Flora of Japan (Ohba 2006), the need to lectotypify the names of specific and infraspecific taxa described by Blume from Japan became apparent. Since 2005 we have collaborated in the typification of taxa based on Siebold's collections. All the specimens in L and M collected by Siebold, Bürger, their successors, and their Japanese correspondents are listed by Yamaguchi et al. (2003).

The current taxonomic status of all taxa given here are according to Ohba (2006). The specimens, recorded on the CD-ROM database entitled "*Von Siebold's Botanical Treasures in Leiden*" (de Kort et al. 2000), are indicated with an asterisk after the register number of the National Herbarium of the Netherlands, Leiden University Branch (L) in parentheses.

### *Aperula*

1) *Aperula citriodora* (Siebold & Zucc.) Blume, Mus. Bot. 1(23): 366 (1851).

*Benzoin? citriodorum* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 206 (1846).

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Zuccarini's annotation "*Benzoin citriodora* S. & Z." and Blume's annotation "*Aperula citriodora* Bl." (L 0327930). [Fig. 1]

Additional original material: Japonia. S [Siebold] s.n., with Siebold's annotation "*B. citriodorum* S & Z" (L 0327931).

Current name: *Litsea cubeba* (Lour.) Pers., Syn. Pl. 2: 4 (1807).

*Aperula citriodorum*, which was not lectotypified previously, was originally described by Siebold and Zuccarini as a species of *Benzoin*. The basionym, *Benzoin? citriodorum*, has not been lectotypified, so it is included, with the lectotype chosen here.

### *Daphnidium*

2) *Daphnidium strychnifolium* Siebold & Zucc.[in Abh. Math.-Phys. Cl. Königl. Bayer.

Akad. Wiss. 4(3): 207 (1846), nom. nud.] ex Blume, Mus. Bot. 1: 352 (1851).

**Lectotype** (designated here): **JAPONIA**. Siebold [Siebold's assistant Kumakichi] s.n., with Siebold's annotation "161 *Daphnidium strychnifolium* S & Z, 716 Laurineae," with note on slips "亥六月廿四日熊吉採 [= 24 June 1827 collected by Kumakichi]," "天台烏薬 [=Tendai-uyaku]," "ウヤク [= Uyaku]" (L 0036603). [Fig. 2]

Additional original material: Japonia. Siebold [Siebold's assistant Kumakichi] s.n., with Zuccarini's annotation "*Daphnidium strychnifolium* S & Z." (L0036600). Japonia. Keiske 93, with Siebold's annotation "*Daphnidium strychnifolium* S. & Z." (L 0170868).

Current name: *Lindera aggregata* (Sims) Kosterm. in Reinwardtia 9: 98 (1974).

The name *Daphnidium strychnifolium* was proposed by Siebold and Zuccarini provisionally and validly published by Blume. Siebold and Zuccarini handwritings are found on the sheets L 0036603 and L 0170868 by Siebold and L 0036600 by Zuccarini. These three specimens are considered to be the original material of *Daphnidium strychnifolium* Siebold & Zucc. [nom. nud.]. All specimens correspond well with the original description by Blume. From the attached label, the lectotype specimen was collected by Kumakichi, a Japanese assistant of Siebold.

Blume cited the specimen(s) in Herb. Bürger, but none of Bürger's specimens are found in L or M. The specimens L 0036601 and L 0036602 were reported to be isotypes of *Daphnidium strychnifolium* Siebold & Zucc. probably by Kostermans. These two specimens are not types because they lack an indication of authenticity.

### *Iozoste*

3) *Iozoste acuminata* Blume, Mus. Bot. 1: 364 (1851), cum "Kooboki japonice."

*Actinodaphne acuminata* (Blume) Meisn. in DC., Prodr. 15(1): 211 (1864).

**Lectotype** (designated here): **JAPONIA**. Aus. Sat'zma, Satsuma, Isl. Koshiki-jima. S [Siebold] s.n., with Blume's annotation "*Iozoste acuminata* Bl." and Siebold's annotation "*L. Koobok* .," "サツマコウボク [= Satsumakôboku]," and ?Keiske's note "厚朴實 [= Kôboku-mi]" (L 0036608\*). [Fig. 3]

Current name: *Litsea acuminata* (Blume) Sa. Kurata, Ill. Important Forest Trees Jap. 2: 48 (1968).

4) *Iozoste lancifolia* Blume, Mus. Bot. 1: 364 (1851), cum "Kagonoki japonice."

*Daphnidium lancifolium* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 207 (1846), nom. nud.

*Actinodaphne lancifolia* (Blume) Miesn. in DC., Prodr. 15(1): 211 (1864).

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Blume's annotation "*Iozoste lancifolia* Bl." and Siebold's annotation "*Daphnidium lancifolium* S & Z, 717" (L 0036609). [Fig. 4]

Additional original material: Japonia. S [Siebold] s.n., without Blume's annotation but with Zuccarini's annotation "65 *Daphnidium lancifolium* S. & Zucc." (L 0036611).

Current name: *Litsea coreana* H. Lév. in Repert. Spec. Nov. Regni Veg. 10: 370 (1912).

### **Laurus**

5) *Laurus sericea* Blume, Bijdr. Fl. Ned. Ind.: 554 (1826).

**Neotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Siebold's annotation "*Laurus glauca* Th.," "アカダモ [= Akadamo]" and "*Laurus glaucae* similis by narutoki. Jan. fruct. matur." and notes on slips "アカツヅ [= Akatsudzu] ヤブダモ [= Yabudamo]" and the anonymous annotation "ナナミノシロダモ [= Nanaminoshirodamo]" (L 0104145). [Fig. 5]

Current name: *Neolitsea sericea* (Blume) Koidz. in Bot. Mag. (Tokyo) 40: 343 (1926) [var. *sericea*].

Koidzumi (1926) considered *Laurus*

*sericea* Blume to be identical with a tree called "Shirodamo," which we now recognize as *Neolitsea sericea*. *Neolitsea sericea* (Blume) Koidz. is a common tree in the warm temperate region of Honshu (from Miyagi Prefecture on the Pacific Ocean side and Yamagata Prefecture on the Japan Sea side) southward to the Nansei islands. For this species Siebold and Zuccarini adopted the name, *Litsea glauca*, which is a combination based on Thunberg's *Laurus glauca*. This is, however, a misunderstanding of *Laurus glauca* Thunb., which is a different species, maybe *Lindera glauca* (Siebold & Zucc.) Blume, called "Yamakôbashi" in Japanese.

On the specimen of *Laurus sericea* Blume (1826) wrote "foliis elliptico-oblongis apice obtusiusculis basi angustatis supra nitidis subtus caesio-glaucis subsericeis, caule arboreo. Crescit: forte ex Japonia allata." Some parts of his description disagree the features of *Neolitsea sericea*, particularly in regard to the apex of the leaves (obtusiusculis [weakly obtuse] versus long acute to acuminate).

There is no specimen with the name, *Laurus sericea*, in Blume's handwriting in Leiden.

### **Lindera**

6) *Lindera glauca* (Siebold & Zucc.) Blume, Mus. Bot. 1: 325 (1851), cum "Afa fuki."

*Benzoin glaucum* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 205 (1846).

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Siebold's annotation "*Sassafras glauca*, S," "アワブキ [= Awabuki]," Zuccarini's annotation "*Benzoin glauca* S. & Z.," and Blume's annotation "*Lindera glauca* Bl." (L 0421706). [Fig. 6]

Current name: *L. glauca* (Siebold & Zucc.) Blume.

*Lindera glauca*, which was not lectotypified previously, was originally described by Siebold and Zuccarini as a species of *Benzoin*. The basionym, *Benzoin glaucum*, has not been

lectotypified so it is included with the lectotype chosen here.

7) *Lindera obtusiloba* Blume, Mus. Bot. 1: 325 (1851), cum “*Wukon bana* s. [sive] *Kouzin bana* s. *Dan kou bai japonice*.”

**Lectotype** (designated here): **JAPONIA**. Siebold ex an unknown Japanese collector, with a label giving exact details of the flowers, fruits and inflorescences, and with Blume’s annotation “*Lindera obtusiloba* Bl.” (L 0036516\*, lower left). [Fig. 7]

Additional original material: Siebold [ex Keiske 81], with Japanese names “ダンコウバイ [= Dankô-bai],” “コウジンバナ [= Kôjin-bana],” and “ウコンバナ [= Ukon-bana],” (L 0036516, upper). Japonia. Siebold ex [Sukerok s.n.], with Japanese name “ウコンバナ [= Ukon-bana]” (L 0036516, lower right).

Current name: *Lindera obtusiloba* Blume.

All three authentic specimens are mounted on a single sheet numbered L 0036516. Among these, the lectotype specimen selected here has only a branchlet with floral buds.

7b) *Lindera obtusiloba* Blume var. *villosa* Blume, Mus. Bot. 1: 325 (1851), cum “*Siromozu japonice*.”

**Lectotype** (designated here): **JAPONIA**. S. [Siebold] s.n., with Blume’s annotation “*Lindera obtusiloba* Bl. var. *villosa*,” with Japanese name on a twisted paper “シロモジ [= Shiromoji],” (L 0036517\*). [Fig. 8]

Current name: *Lindera obtusiloba* Blume.

8) *Lindera praecox* (Siebold & Zucc.) Blume, Mus. Bot. 1: 324 (1851), cum “*Mura datsi* s. *Tefa ziki dsusa* s. *Awa buki japonensium*.”

*Benzoin praecox* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 205 (1846).

**Lectotype** (designated here): **JAPONIA**. Kiusiu. Siebold s.n., with Siebold’s annotation “8 *Benzoin praecox* S & Z. 709” (L 0036590).

[Fig. 9]

Current name: *Lindera praecox* (Siebold & Zucc.) Blume.

*Lindera praecox*, which was not lectotypified previously, was originally described by Siebold and Zuccarini as a species of *Benzoin*. The basionym, *Benzoin praecox*, has not been lectotypified, so it is included, with the lectotype chosen here.

9) *Lindera sericea* (Siebold & Zucc.) Blume, Mus. Bot. 1: 324 (1851), cum “*Kuro mozi* s. *Kuro montzi* s. *Torisiba japonensium*.”

*Benzoin sericeum* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 204 (1846).

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Zuccarni’s annotation “*Benzoin sericeum* S. & Z.,” Siebold’s annotation “*Sasafras glauca*, S. April,” “*Sasafras Thunbergii*, S. var. *tomentosa*,” and “*Sasafras Zunzoo*, S.,” and Blume’s annotation “*Lindera sericea* Bl.” (L 0036597\*). [Fig. 10]

Additional original material: Japonia. Siebold s.n., with Siebold’s annotation “*Benzoin sericeum* S & Z.” and “*Sasafras Thunbergii*, Sieb. var.  $\beta$  オオバノクロモジ [= Ôbanokuromoji]” (L 0036596\*). Japonia. [Sukeroku s.n.], with Siebold’s annotation “*Benzoin sericeum* S. & Z.” (L 0175993, lower right).

Current name: *Lindera sericea* (Siebold & Zucc.) Blume.

*Lindera sericea*, which was not lectotypified previously, was originally described by Siebold and Zuccarini as a species of *Benzoin*. The basionym, *Benzoin sericeum*, has not been lectotypified, so it is included, with the lectotype chosen here.

9b) *Lindera sericea* (Siebold & Zucc.) Blume var. *glabrata* Blume, Mus. Bot. 1: 324 (1851).

**Neotype** (designated here): **JAPONIA**. [Siebold s.n.] with a slip written “クロモシ 良香アリ ... [= Kuromoshi, with good flavor...]” (L 0175993, middle). [Fig. 11]

Current name: *Lindera sericea* (Siebold & Zucc.) Blume var. *glabrata* Blume.

There is no specimen with the variety name, *Lindera sericea* var. *glabrata*, in Blume's handwriting in Leiden.

10) *Lindera triloba* (Siebold & Zucc.) Blume, Mus. Bot. 1: 325 (1851), cum "*Fata ukon* s. *Siro motsi japonice*."

*Benzoin trilobum* Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 202 (1846).

**Lectotype** (designated here): **JAPONIA**. [Keiske] no. 80, with Siebold's annotation "174 *Benzoin trilobum* S & Z. 706.," and Blume's annotation "*Lindera triloba* Bl." (L 0057766, upper left). [Fig. 12]

*Lindera triloba*, which was not lectotypified previously, was originally described by Siebold and Zuccarini as a species of *Benzoin*. The basionym, *Benzoin trilobum*, has not been lectotypified, so it is included, with the lectotype chosen here.

### *Litsea*

11) *Litsea aciculata* Blume, Mus. Bot. 1: 347 (1851), cum "*Inu gasi* et *Matsu nik kei japonice*."

*Litsea foliosa* auct. non Nees: Siebold & Zucc. in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 207 (1846).

**Lectotype** (designated here): **JAPONIA**. Siebold s.n., with Siebold's annotation "31, *Litsea foliosa* Nees, 719" and Blume's annotation "*Litsea aciculata* Bl." (L 0104165).

[Fig. 13]

Additional original material: Japonia. S [Siebold] s.n. [with Bürger's slip], with Blume's annotation "*Litsea aciculata* Bl." and with Japanese name "ダモノキ テンジッケイ [= Damonoki Tennjikkei]" (L 0104167). Japonia. [Sukerok s.n.], with Blume's annotation "*Litsea aciculata* Bl." and with Japanese name "イヌガシ [= Inugashi]" (L 0104166, lower).

Current name: *Neolitsea aciculata* (Blume)

Koidz. in Bot. Mag. (Tokyo) 32: 258 (1918).

### *Machilus*

12) *Machilus japonica* Siebold & Zucc. [in Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 202 (1846), nom. nud.] ex Blume, Mus. Bot. 1: 331 (1851), cum "*Aokasi japonice*."

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n., with Siebold's annotation "14 *Machilus japonicus* S & Z. 705" and "*Persea Aokasi*, J. Stamina ... flor. Majo." (L 0036644).

[Fig. 14]

Current name: *Machilus japonica* Siebold & Zucc. ex Blume.

The name, *Machilus japonica*, was proposed by Siebold and Zuccarini provisionally and validly published by Blume. The specimen, L 0036644, is only the authentic specimen considered to be the original material of *Machilus japonica* Siebold & Zucc. The specimen also corresponds well with the original description by Blume.

13) *Machilus longifolia* Blume, Mus. Bot. 1: 331 (1851), cum "*Aokasi japonice*."

**Lectotype** (designated here): **JAPONIA**. K [Keiske] 13, with Blume's annotation "*Machilus longifolia* Bl." and with a slip written Japanese name "アオガシ [= Aokashi]" (L 0036607\*). [Fig. 15]

Current name: *Litsea acuminata* (Blume) Sa. Kurata.

14a) *Machilus thunbergii* Siebold & Zucc. var. *glaucescens* Blume, Mus. Bot. 1: 331 (1851), cum "*Kuzu japonensium*."

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n. with Blume's annotation "β. var. *glaucescens* Bl." (L 0036841). [Fig. 16]

Current name: *Machilus thunbergii* Siebold & Zucc. ex Meisn. in DC., Prodr. 15(1): 42 (1864) [var. *thunbergii*].

14b) *Machilus thunbergii* Siebold & Zucc. var. *major* Blume, Mus. Bot. 1: 331 (1851), cum

“*Inu kusu s. Ama tsu baki japonensium*.”

**Lectotype** (designated here): **JAPONIA**. S [Siebold] s.n. with Blume's annotation “var. *major* Bl.” and a slip with Japanese name “N 16 イヌグス [=Inu-gusu]” (L 0036842). [Fig. 17]

Additional original material: Japonia. K [Keisuke] 65, with Japanese name “アマツバキ [=Amatsubaki]” (L 0170871).

Current name: *Machilus thunbergii* Siebold & Zucc. var. *thnbergii*.

The lectotype specimen chosen here, L 0036842, corresponds with the original description better than L 0170871.

We greatly appreciate the advice of Dr. Hans-Joachim Esser, Botanische Staatssammlung München. Thanks are also due to Dr. David E. Boufford, the Harvard University Herbaria, for critically reading the manuscript. This study was partly supported by Grants-in-Aid for Scientific Research from the Japan Society for the Promotion of Science (no. 20300286 to Dr. Tokuhei Tagai and no. 24405014 to H.O.).

大場秀章<sup>a</sup>, 秋山 忍<sup>b</sup>, G. Thijssse<sup>c</sup>: **Blume** が日本から記載したクスノキ科の種および変種のタイプ

Blume は、日本からの Siebold, Bürger, Keiske (伊藤圭介) らの採集品からなるシーボルト・コレクション中のクスノキ科を研究し、その結果を 1826 年および 1851 年に論文として発表した。そのなかで多数の新種や新変種が発表されたが、記載ではまったくタイプの指定がなされなかった。学名の安定化などの目的で、ライデンならびにミュンヘンに収蔵されるシーボルト・コレクションから Blume が記載に用いた標本(原資料)を特定した。クスノキ科については Siebold & Zuccarini 命名学名のタイプ特定が未だ終わっていないので、彼ら

## References

- Blume C. L. 1825–26. Bijdragen tot de Flora van Nederlandsch Indië (*Lauraceae* in 1826). Batavia.
- Blume C. L. 1851. Museum Botanicum Lugduno-Batavia 1: 323–325 (*Lindera*), 329–331 (*Machilus*), 345–350 (*Litsaea*), 350–352 (*Daphnidium*), 364–365 (*Iozoste*).
- Knapp S., McNeill J. and Turland N. J. 2011. Changes to publication requirements made at the XVIII International Botanical Congress in Melbourne — what does e-publication mean for you. *Taxon* 60: 1498–1501.
- de Kort I., Ridder-Numan J., Thijssse G., Kato N. and Yamaguchi T. 2000. Von Siebold's Botanical Treasures in Leiden, CD-ROM with a Booklet (18pp.), ETI/NHN, Amsterdam.
- McNeill J. and Turland N. J. 2011. Major changes to the *Code of Nomenclature*: Melbourne, July 2011. *Taxon* 60: 1495–1497.
- Ohba H. 2006. *Lauraceae*. In: Iwatsuki K., Boufford D. E. and Ohba H. (eds.), *Flora of Japan* 2a: 240–253. Kodansha, Tokyo.
- Ohba H., Akiyama S., and Thijssse G. 2009. Lectotype and original material for Blume's species and varieties of *Fagaceae* from Japan. *J. Jpn. Bot.* 84: 237–254.
- Yamaguchi T., Fujii S., Tamura M. N., Nagamasu H., Kato N., Wada H. and Yamamoto A. 2003. Botanical specimens collected by von Siebold and his group in Japan シーボルトならびに関連した人々が収集した植物標本類. *Calanus*, Special Number 5: 191–197, 205–576.

が記載し、Blume が組替えを行った 5 分類群についてのレクトタイプ選定もこの論文に含めて扱った。11 種 4 変種については、記載に最もよく合致する標本を選定し、レクトタイプに指定した。原資料が所在不明である *Laurus sericea* Blume および *Lindera sericea* (Siebold & Zucc.) Blume var. *glabrata* Blume については、ネオタイプを選定した。

(<sup>a</sup> 東京大学総合研究博物館,

<sup>b</sup> 国立科学博物館植物研究部,

<sup>c</sup> オランダ・国立植物標本館ライデン大学分館)



Fig. 1. Lectotype of *Apteris citriodora* (Siebold & Zucc.) Blume ( $\equiv$  *Benzoin*? *citriodorum* Siebold & Zucc.) (L.0327930).



Fig. 2. Lectotype of *Daphnidium strychnifolium* Siebold & Zucc. ex Blume (L.0036603).







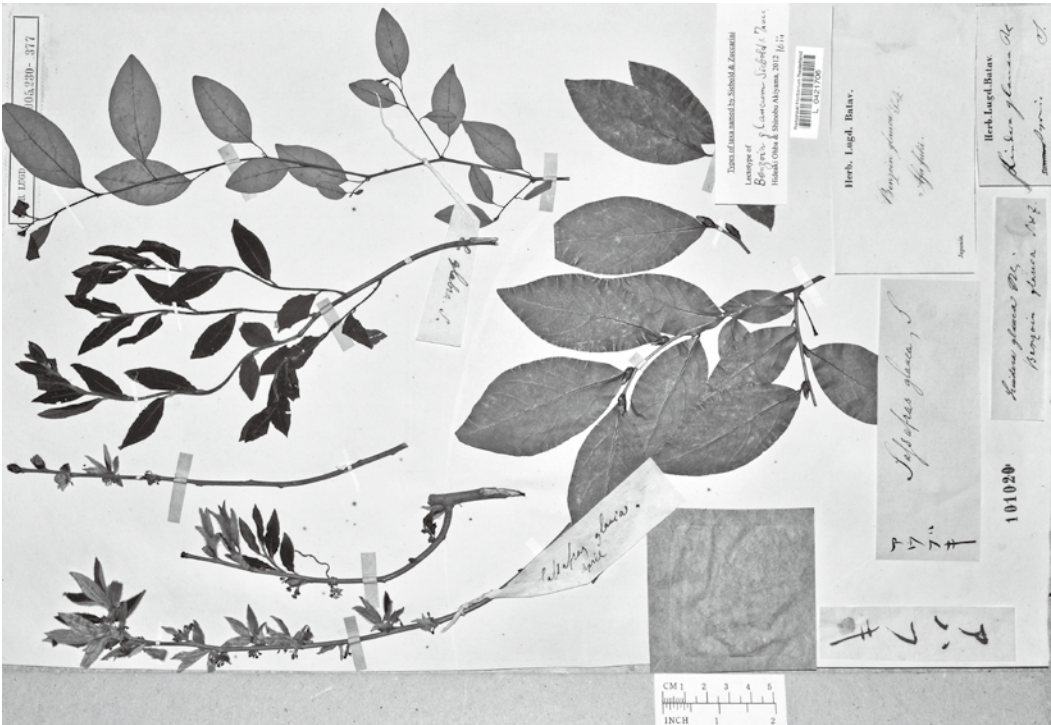


Fig. 6. Lectotype of *Lindera glauca* (Siebold & Zucc.) Blume (≡ *Benzoin glaucum* Siebold & Zucc.) (L 0421706).



Fig. 5. Neotype of *Laurus sericea* Blume (L 0104145).







Fig. 10. Lectotype of *Lindera sericea* (Siebold & Zucc.) Blume ( $\equiv$  *Benzoin sericeum* Siebold & Zucc.) (L 0036597).

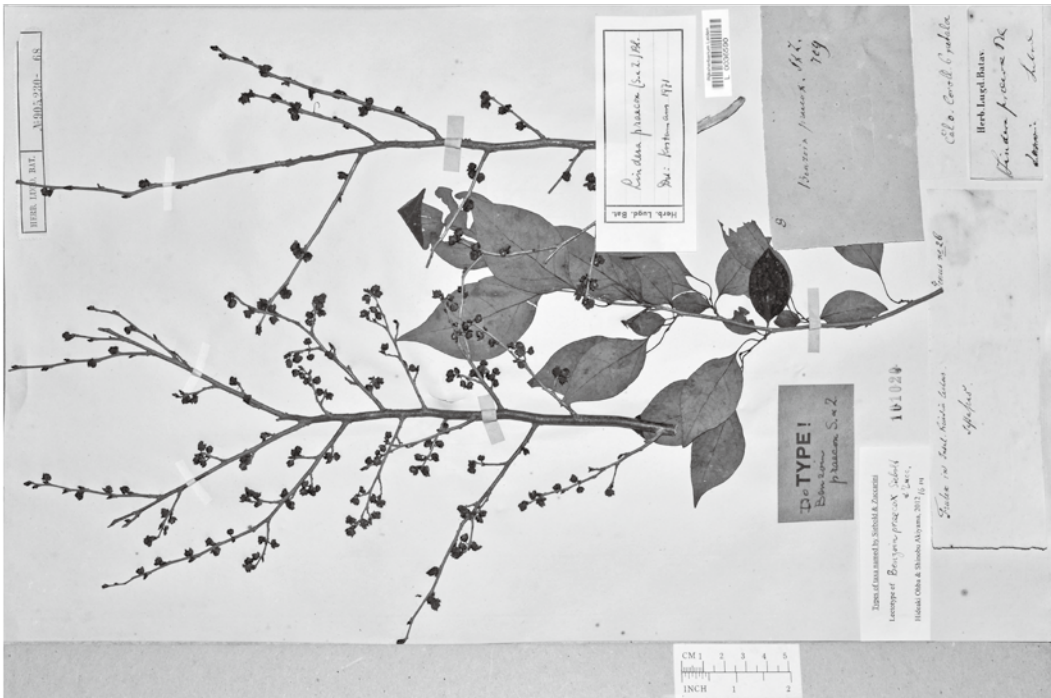


Fig. 9. Lectotype of *Lindera praecox* (Siebold & Zucc.) Blume ( $\equiv$  *Benzoin praecox* Siebold & Zucc.) (L 0036590).

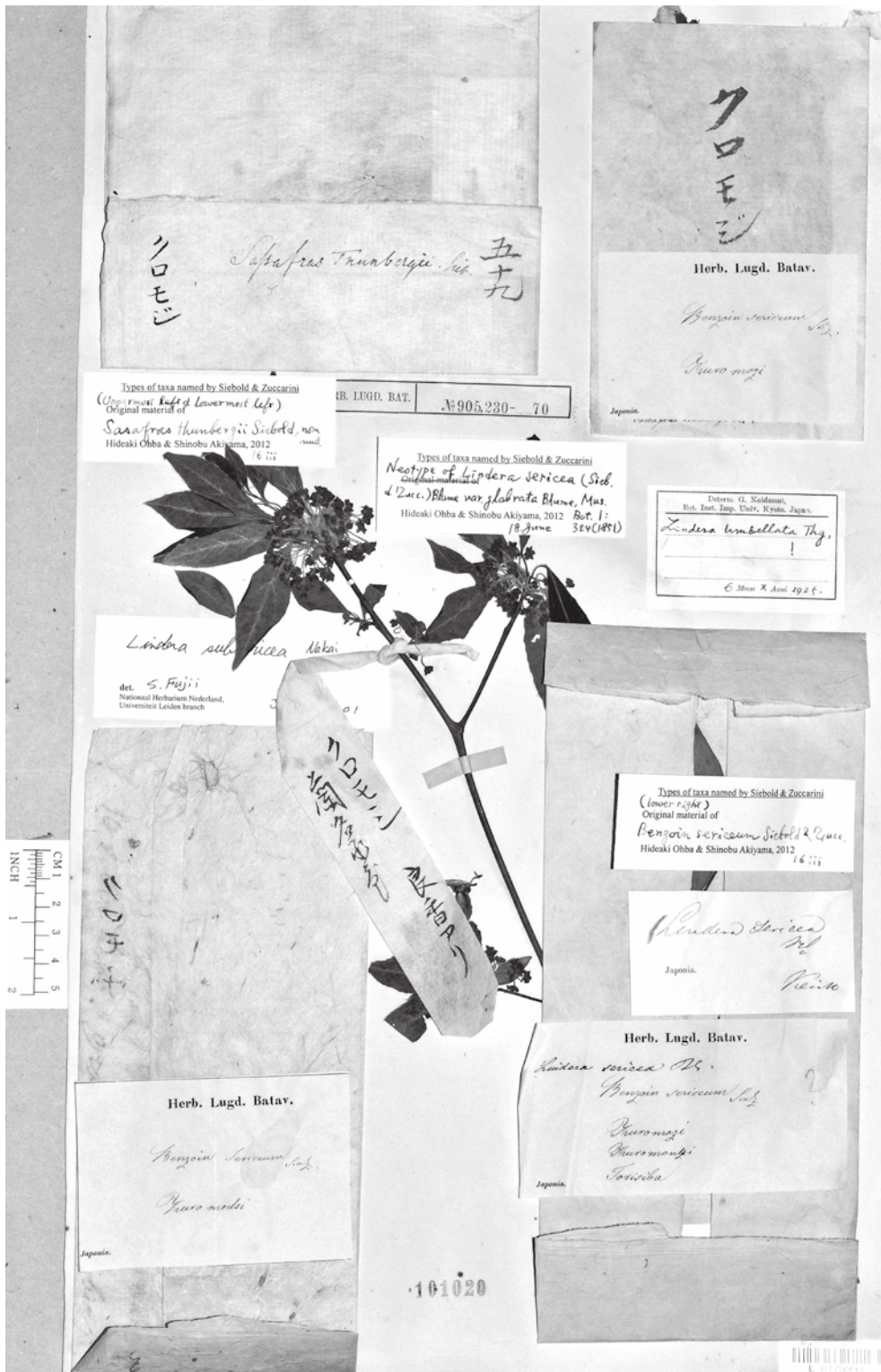


Fig. 11. Neotype of *Lindera sericea* var. *glabrata* Blume (L 0175993).











Fig. 17. Lectotype of *Machilus thunbergii* var. *major* Blume (L 0036842).



Fig. 16. Lectotype of *Machilus thunbergii* var. *glaucescens* Blume (L 0036841).